(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 10 February 2005 (10.02.2005)

PCT

(10) International Publication Number WO 2005/011475 A3

(51) International Patent Classification⁷:

r:

(21) International Application Number:

PCT/US2004/024469

(22) International Filing Date: 28 July 2004 (28.07.2004)

(25) Filing Language:

English

A61N 1/00

(26) Publication Language:

English

(30) Priority Data: 10/629,881

29 July 2003 (29.07.2003) US

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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

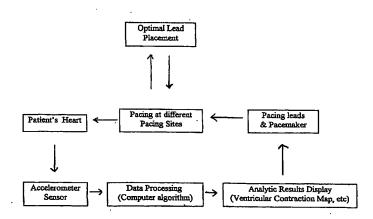
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 30 June 2005

[Continued on next page]

(54) Title: OPTIMIZATION METHOD FOR CARDIAC RESYNCHRONIZATION THERAPY



(57) Abstract: The patterns of contraction and relaxation of the heart before and during left ventricular or biventricular pacing are analyzed and displayed in real time mode to assist physicians to screen patients for cardiac resynchronization therapy, to set the optimal AN or right ventricle to left ventricle interval delay, and to select the site(s) of pacing that result in optimal cardiac performance. The system includes an accelerometer sensor (40); a programmable pace maker (35, 41), a computer data analysis module (32), and may also include a 2D and 3D visual graphic display of analytic results (43, 44), i.e. a Ventricular Contraction Map. A feedback network (32) provides direction for optimal pacing leads placement. The method includes selecting a location to place the leads of a cardiac pacing device, collecting seismocardiographic (SCG) data corresponding to heart motion during paced beats of a patient's heart, determining hemodynamic and electrophysiological parameters based on the SCG data, repeating the preceding steps for another lead placement location, and selecting a lead placement location that provides the best cardiac performance by comparing the calculated hemodynamic and electrophysiological parameters for each different lead placement location.



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